

Summary Report for Individual Task  
551-88L-3061  
Troubleshoot a Propulsion System  
Status: Approved

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**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD5** - This product/publication has been reviewed by the product developers in coordination with the [installation/activity name] foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

**Condition:** Given a propulsion system aboard a vessel, at sea, at anchor or moored alongside a pier, day or night, under all sea and weather conditions, while wearing the appropriate PPE (i.e. hearing protection, Nitrile gloves, eye protection, etc.).

**Standard:** The Soldier correctly conducts troubleshooting procedures of the propulsion system aboard an Army vessel, IAW the appropriate technical manuals, without injury to self or others and without damage to equipment during any time the equipment is being taken apart or repaired.

**Special Condition:** None

**Safety Risk:** Medium

**MOPP 4:**

<b>Task Statements</b>
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**Cue:** None

<b>DANGER</b>
None

<b>WARNING</b>
None

<b>CAUTION</b>
None

**Remarks:** None

**Notes:** None

### **Performance Steps**

1. Perform troubleshooting procedures for the reverse reduction gear.
  - a. Reduction gear engages but engine does not come up to speed.
    - (1) Check the throttle control system.
    - (2) Ensure shaft brake has released.
  - b. Reduction gear overheats.
    - (1) Check heat exchanger.
    - (2) Verify proper reduction gear oil level.
  - c. Reduction gear engages but shaft does not spin.
    - (1) Ensure shaft brake has released.
    - (2) Ensure shaft locks are removed.
    - (3) Verify reduction gear input shaft is rotating.
    - (4) Confirm propeller is not fouled.
2. Perform troubleshooting procedures for the propeller shaft stuffing box, (refer to Figure 551-88L-3061\_01).
  - a. Excessive leaking of the stuffing box.
    - (1) Check for loose or worn packing.
    - (2) Adjust or replace packing.
  - b. Excessively hot stuffing box.
    - (1) Check if packing gland is too tight.
    - (2) Adjust packing.

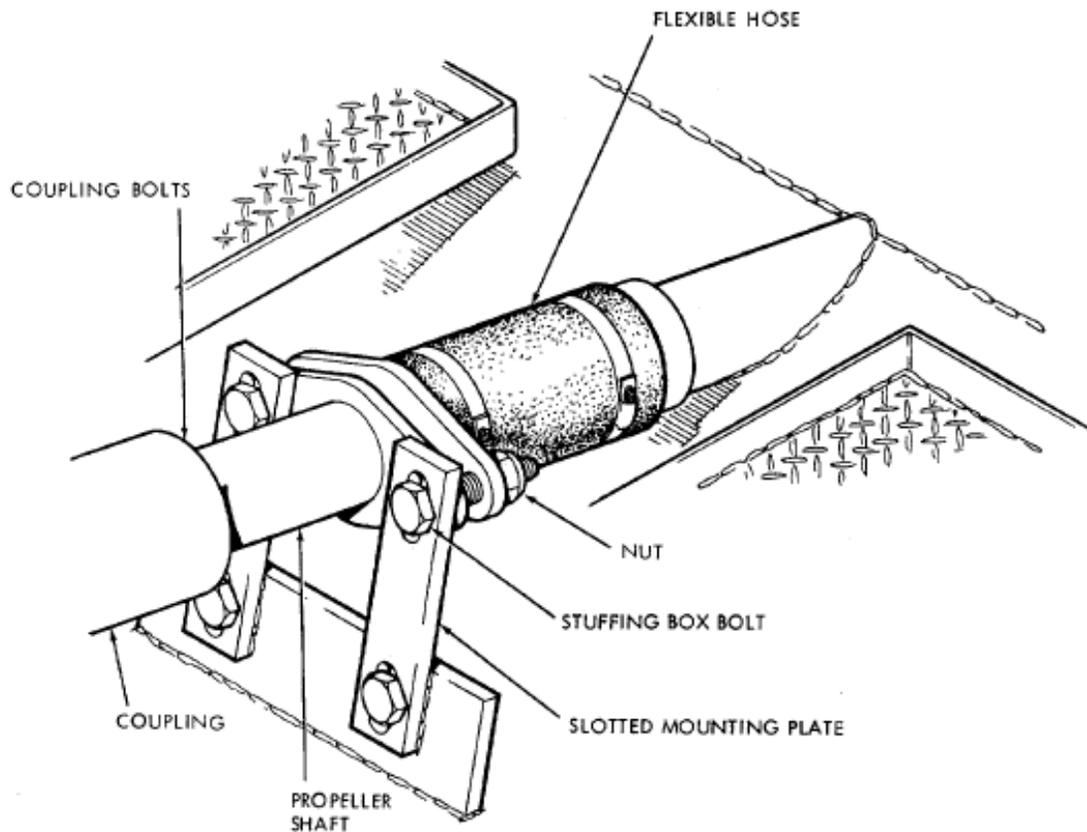


Figure 551-88L-3061\_01  
Stuffing box

3. Perform troubleshooting procedures for the propeller shaft mechanical seal, (refer to Figure 551-88L-3061\_02).

a. Excessive leaking of the shaft seal while shaft is spinning.

- (1) Check for worn seal faces.
- (2) Readjust the seal faces.
- (3) Replace seal if necessary.

b. Inflatable seal leaks during extended layup.

- (1) Check air supply to shaft seal.
- (2) Check for ruptured inflatable seal.

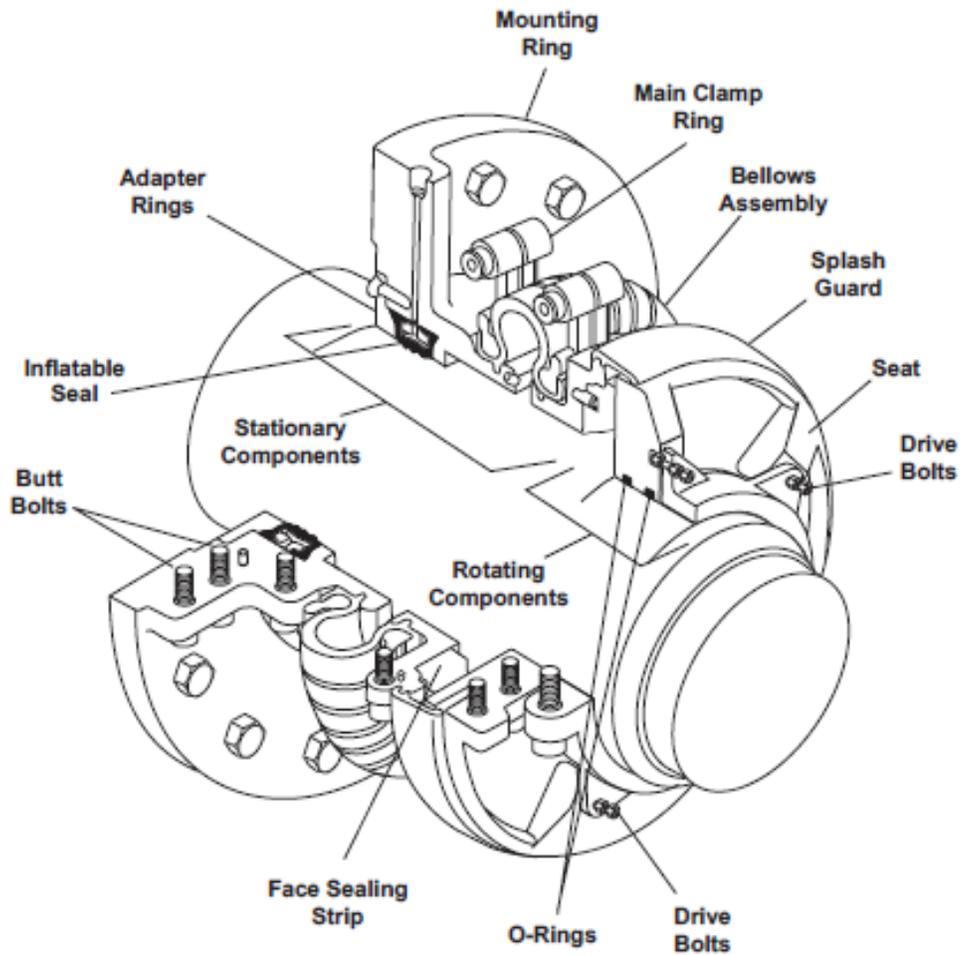


Figure 551-88L-3061\_02  
Mechanical shaft seal

4. Perform troubleshooting procedures for excessive vibration in the propeller shaft.
  - a. Check for bent shaft.
  - b. Check for bent or broken propeller.
  - c. Check for excessive marine growth on propeller.
  
5. Perform troubleshooting procedures for the shaft brake, (refer to Figure 551-88L-3061\_03).
  - a. Does not engage in neutral.
    - (1) Check for proper hydraulic pressure.
    - (2) Check the hydropneumatic operating system.
  - b. Does not release when throttle is moved 20 degrees AHEAD or ASTERN.
    - (1) Check for proper throttle control synchronization.

(2) Check the hydropneumatic operating system.

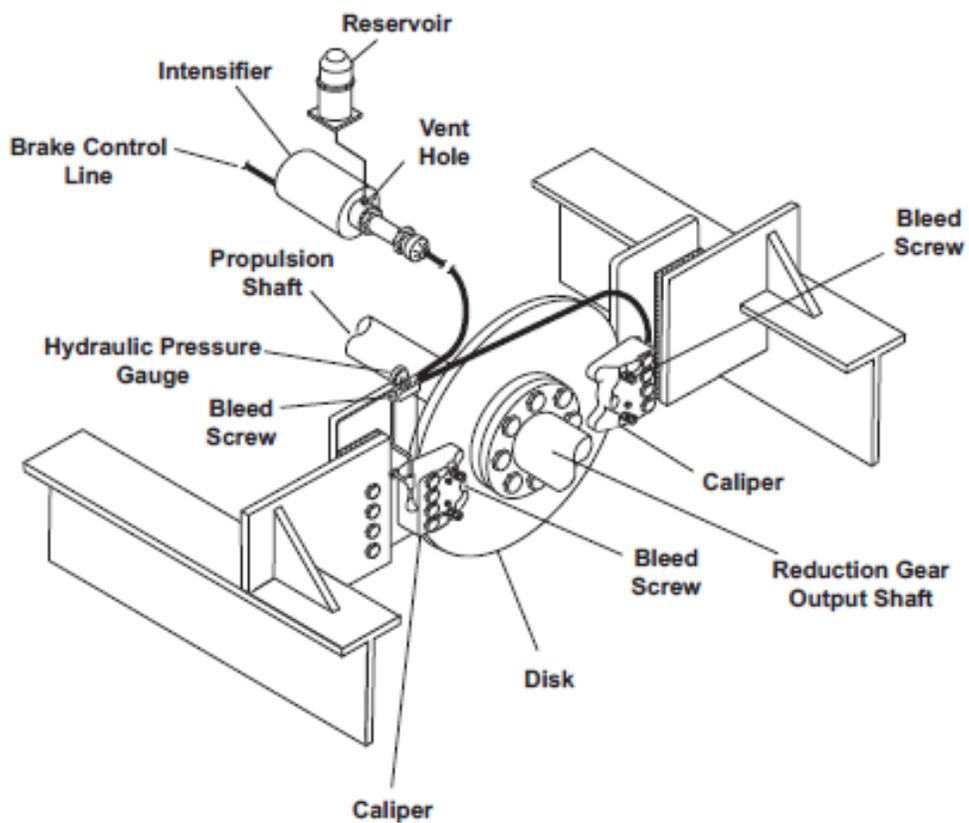


Figure 551-88L-3061\_03  
Shaft brake

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** None

**Evaluation Preparation:** None

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Performed troubleshooting procedures of the reverse reduction gear.			
a. Reduction gear engages but engine does not come up to speed.			
b. Reduction gear overheats.			
c. Reduction gear engages but shaft does not spin.			
2. Performed troubleshooting procedures of the propeller shaft stuffing box.			
a. Excessive leaking of the stuffing box.			
b. Excessively hot stuffing box.			
3. Performed troubleshooting procedures of the propeller shaft mechanical seal.			
a. Excessive leaking of the shaft seal while shaft is spinning.			
b. Inflatable seal leaks during extended layup.			
4. Performed troubleshooting procedures for excessive vibration in the propeller shaft.			
5. Performed troubleshooting procedures of the shaft brake.			
a. Does not engage in neutral.			
b. Does not release.			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	TM 55-1905-223-24-1	UNIT, INTERMEDIATE DIRECT SUPPORT AND INTERMEDIATE GENERAL SUPPORT MAINTENANCE MANUAL FOR MAIN PROPULSION ENGINE FOR LANDING CRAFT UTILITY (LCU) (NSN 1905-01-154-1191) (REPRINTED W/BASIC INCL C1-3) (THIS	No	No
	TM 55-1915-200-10	Operator's Manual for Logistic Support Vessel (LSV) (NSN 1915-01-153-8801) (Reprinted W/Basic Incl C1-6)	No	No
	TM 55-1925-236-12	OPERATOR AND UNIT MAINTENANCE MANUAL FOR SMALL TUG (ST) (NSN 1925-01-435-1713)	No	No
	TM 55-1925-273-10-1	Operator's Manual For Inland Coastal Large Tug (LT) (NSN 1925-01-509-7013)(EIC XAG) (This item is included on EM 0272)	No	No

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :**

<b>Task Number</b>	<b>Title</b>	<b>Proponent</b>	<b>Status</b>
551-88L-2062	Maintain a Propulsion System	551 - Transportation (Individual)	Approved
551-88L-3052	Trouble Shoot a Hydraulic System	551 - Transportation (Individual)	Approved
551-88L-1035	Demonstrate Basic Knowledge of a Propulsion System	551 - Transportation (Individual)	Analysis

**Supported Individual Tasks :**

<b>Task Number</b>	<b>Title</b>	<b>Proponent</b>	<b>Status</b>
551-88L-1035	Demonstrate Basic Knowledge of a Propulsion System	551 - Transportation (Individual)	Approved
551-88L-1035	Demonstrate Basic Knowledge of a Propulsion System	551 - Transportation (Individual)	Analysis
551-88L-2062	Maintain a Propulsion System	551 - Transportation (Individual)	Approved

**Supported Collective Tasks : None****ICTL Data :**

<b>ICTL Title</b>	<b>Personnel Type</b>	<b>MOS Data</b>
88L40 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL4, Duty Pos: TGB, LIC: EN, SQI: O
88L30 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL3, Duty Pos: TFR, LIC: EN